

**PATENT COOPERATION TREATY**  
**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>F17985 SCF</b>	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International application No. <b>PCT/IB2004/001717</b>	International filing date ( <i>day/month/year</i> ) <b>26.05.2004</b>	Priority date ( <i>day/month/year</i> ) <b>27.05.2003</b>	
International Patent Classification (IPC) or national classification and IPC <b>F41H11/16</b>			
Applicant <b>CSIR et al.</b>			
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 6 sheets, as follows:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>			
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input checked="" type="checkbox"/> Box No. II Priority</li> <li><input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>			
Date of submission of the demand <b>02.12.2004</b>	Date of completion of this report <b>09.09.2005</b>		
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Herrera, M Telephone No. +49 89 2399-2090		



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**Box No. I Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

2-12	as originally filed
1, 1a	filed with telefax on 15.03.2005

**Claims, Numbers**

1-21	filed with telefax on 15.03.2005
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**Drawings, Sheets**

1/3-3/3	as originally filed
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a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

## **INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

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**Box No. II Priority**

- This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:
    - copy of the earlier application whose priority has been claimed (Rule 66.7(a)).
    - translation of the earlier application whose priority has been claimed (Rule 66.7(b)).
  - This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

**Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes:	Claims	1-18
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-18
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-18
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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**Box No. VIII Certain observations on the international application**

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The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

**see separate sheet**

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**Re Item II**

**Priority**

The priority of the present application was not available to the International Examining Authority at the time of drafting the present opinion. Any priority rights have therefore not been taken into account.

**Re Item III**

**Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

Claim 18-20 contain references to the description and the drawings. The claims with their present formulation are so unclear in the definition of the scope to protect that no meaningful opinion can be given here.

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: PATENT ABSTRACTS OF JAPAN vol. 2002, no. 07, 3 July 2002 (2002-07-03) & JP 2002 090095 A (AKAZAWA TAKAO), 27 March 2002 (2002-03-27)
- D2: PATENT ABSTRACTS OF JAPAN vol. 2003, no. 03, 5 May 2003 (2003-05-05) & JP 2002 340499 A (IWAMOTO SATOSHI), 27 November 2002 (2002-11-27)
- D3: US-A-5 442 990 (KROHN WALTER) 22 August 1995 (1995-08-22)

The document D1, regarded as being the prior art closest to the subject-matter of claim 1, shows a vehicle with a mine detonating roller and a deflecting plate for interrupting the air blast, thereby protecting the operator.

D2 discloses a front roller imparting pressure against the ground with a cover to protect from the blast and sideways deflecting plates to remove debris.

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D3 describes an tilting plate able to enclose the areas where the explosion takes place or to be lifted and so shield the operator.

All found documents fail to disclose or suggest the use of any plate or deflector having an acoustic speed of 6000 m/s or higher, so that shock waves can be more efficiently diverted away from the area or cubicle in which the operator sits.

The subject-matter of the independent claims 1, 5 and 14 of the present application is therefore considered novel according to Article 33(2) PCT and the solution to the problem proposed appears to involve an inventive step within the meaning of Article 33(3) PCT.

The industrial applicability is evident.

Claims 2 to 17, as dependent claims, would also appear to meet the requirements of the PCT with respect to novelty inventive step and industrial applicability.

**Re Item VIII**

**Certain observations on the international application**

Claims 18 to 20 contain references to the description or drawings. Their wording makes it impossible to delimit the scope of protection, so that it renders the claims unclear.

According to Rule 6.2(a) PCT, claims should not contain references to except where absolutely necessary (cf. PCT Guidelines, C-III, 4.10). Such is, however, not the case here.